

# Tension/compression force transducer S-Type up to 50 kN Model F2802

WIKA data sheet FO 51.48

## EAC

### Applications

- Tension and compression force testing
- Vessel weighing
- Load monitoring in industrial plants

### Special features

- Measuring ranges 0 ... 0,5 kN up to 0 ... 50 kN
- Corrosion-resistant stainless steel or steel design
- Protection IP65 (< 5 kN), IP67 (≥ 5 kN)



Tension/compression force transducer, model F2802

### Description

Tension/compression force transducers are designed for static and dynamic measurements tasks in the direct flux of force. They determine the tension and compression forces in a wide scope of applications.


Force transducers of this series are used in weighing technology as well as in countless industrial applications, where high accuracy, simple installation with force introduction via the two internal threads and a favorable price plays a decisive role.

## Specifications in accordance with VDI/VDE/DKD 2638

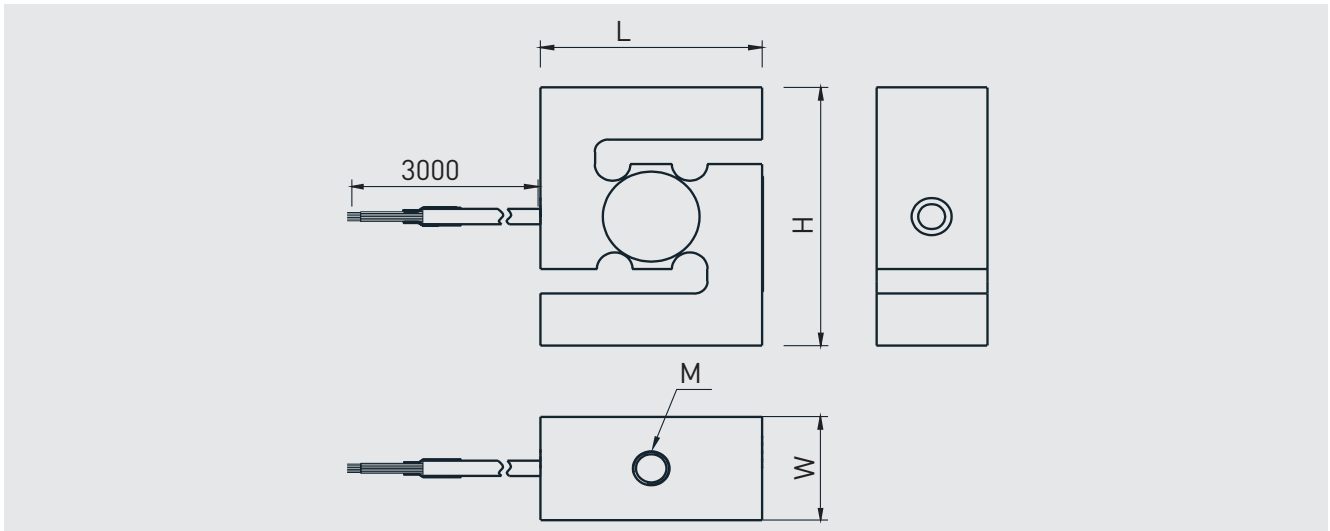
Model F2802								
Rated force $F_{nom}$ kN	0.5	1	2	5	10	20	30	50
Rated load $F_{nom}$ kg	50	100	200	500	1,000	2,000	3,000	5,000
Relative linearity error $d_{lin}^{1)}$								
Steel	$\pm 0.03 \% F_{nom}$							
Stainless steel	$\pm 0.05 \% F_{nom}$							
Relative creep, 30 min.								
Steel	$\pm 0.03 \% F_{nom}$							
Stainless steel	$\pm 0.05 \% F_{nom}$							
Relative reversibility $v$								
Steel	$\pm 0.03 \% F_{nom}$							
Stainless steel	$\pm 0.05 \% F_{nom}$							
Relative repetability error in unchanged mounting position $b_{rg}$								
Steel	$\pm 0.03 \% F_{nom}$							
Stainless steel	$\pm 0.05 \% F_{nom}$							
Relative deviation of zero signal $d_{s,0}$	$\pm 2 \% F_{nom}$							
Temperature effect on zero signal $TK_0$	$\leq \pm 0.025 \% / 10 \text{ K}$							
Temperature effect on characteristic value $TK_C$	$\leq \pm 0.025 \% / 10 \text{ K}$							
Force limit $F_L$	150 % $F_{nom}$							
Breaking force $F_B$	200 % $F_{nom}$							
Material	Stainless steel, alloy steel							
Rated temperature range $B_{T, nom}$	-10 ... + 40 °C							
Operating temperature range $B_{T, G}$	-20 ... + 80 °C							
Input resistance $R_e$	385 ± 30 Ω							
Output resistance $R_a$	350 ± 5 Ω							
Insulation resistance $R_{is}$	≥ 5,000 MΩ/DC 100 V							
Output signal (rated output) $C_{nom}$	2.0 ± 0.1 % mV/V							
Electrical connection	Cable Ø 5 x 3,000 mm							
Excitation voltage								
Standard	DC 5 ... 10 V							
Option	DC 12 ... 28 V integrated or cable amplifier 0(4) ... 20 mA DC 0 ... 10 V DC 0 ... 5 V							
Protection (acc. to IEC/EN 60529)	IP65 (< 5 kN), IP67 (≥ 5 kN)							
Weight								
0.5 kN	0.3 kg							
1 kN; 2 kN; 5 kN; 10 kN	0.5 kg							
20 kN; 30 kN	1.3 kg							
50 kN	1.4 kg							

<sup>1)</sup> Relative linearity error is specified in chapter 3.2.6 according to VDI/VDE/DKD 2638

## Approvals

Logo	Description	Country
	<b>EU Declaration of Conformity</b> ■ EMC Directive ■ RoHS Directive	European Union
	<b>EAC (Option)</b> EMV-Directive	Eurasian Economic Community

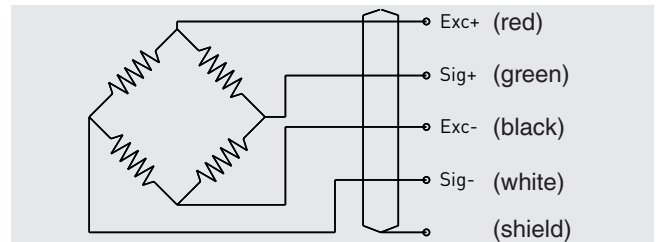
## Dimensions in mm



Rated force in kN	Dimensions in mm			
	H	L	W	M
0.5	63.5	50.8	25.4	M8
1; 2	76.2	50.8	25.4	M12
5; 10	87.3	57.2	31	M12
20; 30	100	69.8	36.5	M24 x 2
50	114.3	76.2	36.5	M24 x 2

## Pin assignment

Electrical connection	
Excitation voltage (+)	Red
Excitation voltage (-)	Black
Signal (+)	Green
Signal (-)	White
Shield	Shield



### Note for installation

In order to avoid overloading, it is necessary to connect the force transducer electrically during installation and to monitor the measured value.

The force to be measured must be applied concentrically and free of transverse force. The force transducers are to be mounted on a level surface.

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